

Attorney Docket No.: DRE-0055
Inventors: Laurencin et al.
Serial No.: 09/878,641
Filing Date: June 11, 2001
Page 2

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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A replacement construct for tendons or ligaments consisting essentially of a degradable, porous, polymeric fiber-based, three-dimensional braided scaffold formed using a 4-step process three-dimensional textile braiding technique which uses a track and column method.

Claim 2 (currently amended): A replacement construct for tendons or ligaments consisting essentially of a degradable polymeric fiber-based, three-dimensional braided scaffold formed using a 4-step process three-dimensional textile braiding technique which uses a track and column method and seeded with cells, in-growth of which is supported by the scaffold.

Claim 3 (previously presented): The replacement construct of claim 2 wherein the cells are mesenchymal in origin.

Claim 4 (original): The replacement construct of claim 2 wherein the cells generate mesenchymal cells.

Claim 5 (original): The replacement construct of claim 4 wherein the cells are pluripotent stem cells.

Claim 6 (original): A method for repairing, replacing or reconstructing a damaged tendon or ligament in a patient

Attorney Docket No.: DRE-0055
Inventors: Laurencin et al.
Serial No.: 09/878,641
Filing Date: June 11, 2001
Page 3

comprising implanting at a damaged tendon or ligament the replacement construct of claim 1.

Claim 7 (original): A method for repairing, replacing or reconstructing a damaged tendon or ligament in a patient comprising implanting at a damaged tendon or ligament the replacement construct of claim 2.

Claim 8 (original): A method for producing a graft material composed of living cells in a degradable matrix comprising:

(a) harvesting, growing and passaging cells in tissue culture; and

(b) seeding the cultured cells onto the degradable, polymeric fiber-based, three-dimensional braided scaffold of claim 1.

Claim 9 (original): The method of claim 8 wherein the cells are mesenchymal in origin.

Claim 10 (original): The method of claim 8 wherein the cells generate mesenchymal cells.

Claim 11 (original): The method of claim 10 wherein the cells are pluripotent stem cells.

Claim 12 (currently amended): A replacement construct for tendons or ligaments consisting essentially of a slowly degrading, porous, polymeric fiber-based, three-dimensional braided scaffold formed using a 4-step process three-dimensional textile braiding technique which uses a track

Attorney Docket No.: DRE-0055
Inventors: Laurencin et al.
Serial No.: 09/878,641
Filing Date: June 11, 2001
Page 4

and column method, said replacement construct having two end sections for attachment of the replacement construct and a middle region differing from the two end regions in size, braiding angle, porosity and mechanical strength which promotes formation of ligament and tendon tissue.